

Features

- High Surge Capability
- Types up to 1000 V V_{RRM}

DO-4 Package

Note:

1. Standard polarity: Stud is cathode.
2. Reverse polarity (R): Stud is anode.
3. Stud is base.



Maximum ratings, at $T_J = 25\text{ }^\circ\text{C}$, unless otherwise specified ("R" devices have leads reversed)

Parameter	Symbol	Conditions	FR12K(R)05	FR12M(R)05	Unit
Repetitive peak reverse voltage	V_{RRM}		800	1000	V
RMS reverse voltage	V_{RRMS}		560	700	V
DC blocking voltage	V_{DC}		800	1000	V
Continuous forward current	I_F	$T_C \leq 100\text{ }^\circ\text{C}$	12	12	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SH}$	$T_C = 25\text{ }^\circ\text{C}$, $t_b = 8.3\text{ ms}$	180	180	A
Operating temperature	T_J		-65 to 150	-65 to 150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to 175	-65 to 175	$^\circ\text{C}$

Electrical characteristics, at $T_J = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	FR12K(R)05	FR12M(R)05	Unit
Diode forward voltage	V_F	$I_F = 12\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$	1.4	1.4	V
Reverse current	I_R	$V_R = 100\text{ V}$, $T_J = 25\text{ }^\circ\text{C}$	25	25	μA
		$V_R = 100\text{ V}$, $T_J = 150\text{ }^\circ\text{C}$	6	6	mA

Recovery Time

Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$	500	500	nS
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Thermal characteristics

Thermal resistance, junction - case	$R_{\theta JC}$		2.0	2.0	$^\circ\text{C/W}$
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Figure .1-Typical Forward Characteristics

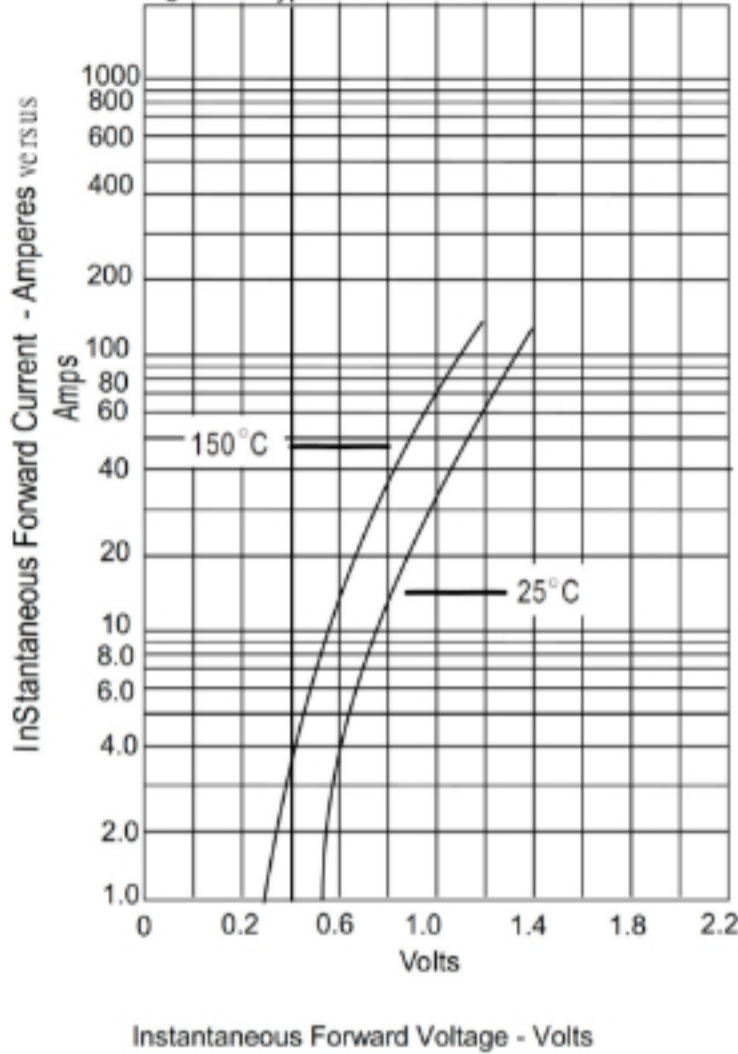


Figure .2-Forward Derating Curve

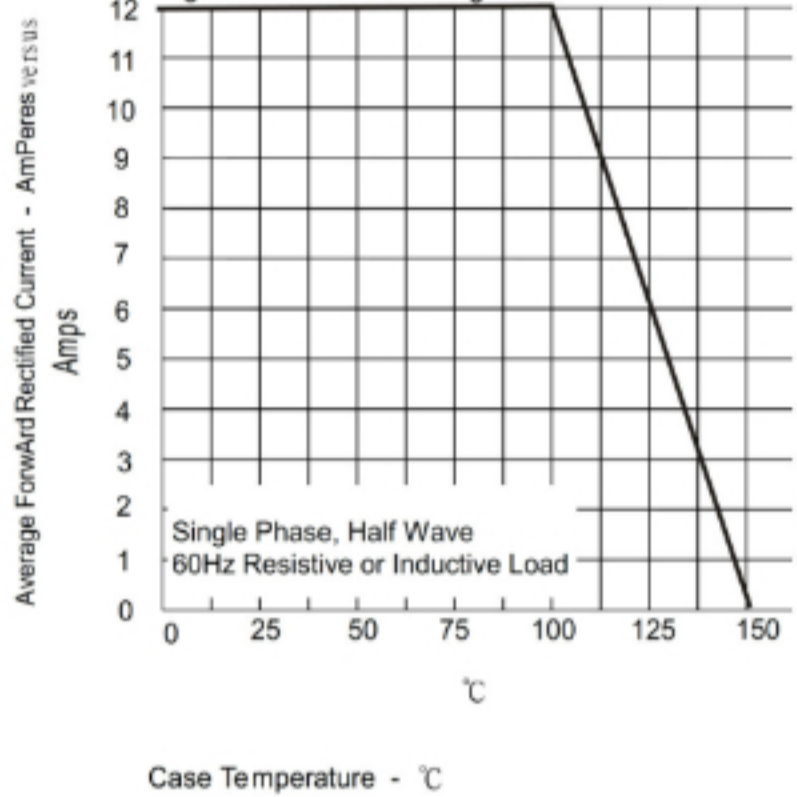


Figure .4-Typical Reverse Characteristics

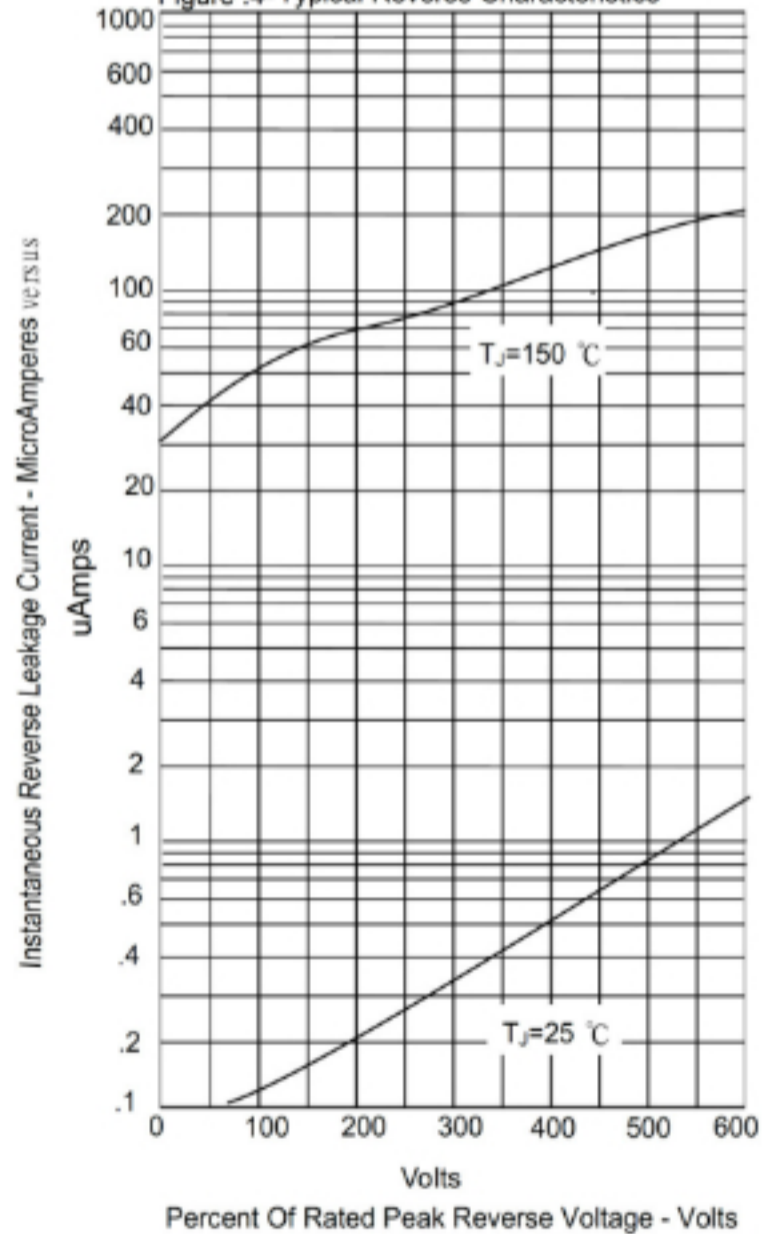


Figure .3-Peak Forward Surge Current

